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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/771,882	01/30/2001	Chuan-Bao Wang	00250	2679

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DENNISON, SCHULTZ, DOUGHERTY & MACDONALD  
1727 KING STREET  
SUITE 105  
ALEXANDRIA, VA 22314

EXAMINER

SINES, BRIAN J

ART UNIT PAPER NUMBER

1743

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Advisory Action</b> <b>Before the Filing of an Appeal Brief</b>	Application No. 09/771,882	Applicant(s) WANG ET AL.	
	Examiner Brian J. Sines	Art Unit 1743	

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 21 March 2005 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☒ The period for reply expires 4 months from the mailing date of the final rejection.
- b) ☐ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.

Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### NOTICE OF APPEAL

2. ☐ The reply was filed after the date of filing a Notice of Appeal, but prior to the date of filing an appeal brief. The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

#### AMENDMENTS

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because
- (a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);
- (b) ☐ They raise the issue of new matter (see NOTE below);
- (c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or
- (d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).


4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.
- The status of the claim(s) is (or will be) as follows:
- Claim(s) allowed: \_\_\_\_\_.
- Claim(s) objected to: \_\_\_\_\_.
- Claim(s) rejected: \_\_\_\_\_.
- Claim(s) withdrawn from consideration: \_\_\_\_\_.

#### AFFIDAVIT OR OTHER EVIDENCE

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).
10. ☒ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

#### REQUEST FOR RECONSIDERATION/OTHER

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See attached.
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08 or PTO-1449) Paper No(s). \_\_\_\_\_
13. ☐ Other: \_\_\_\_\_.

  
 Monique T. Cole  
 Primary Examiner  
 Art Unit 1743

## **ADVISORY ACTION**

### ***Oath/Declaration***

The declaration under 37 CFR 1.132, filed 3/21/2005, is acknowledged and has been reviewed by the examiner.

### ***Response to Arguments***

1. Regarding the rejection of claims 1 – 4 and 6 – 14 under 35 U.S.C. 103(a) as being unpatentable over Jones et al. (U.S. Pat. No. 4,246,228) in view of Friese et al. (U.S. Pat. No. 5,368,713 A), applicant's arguments, filed 3/21/2005, have been fully considered, but they are not persuasive. The applicant is essentially arguing that the teachings of the layered system of Friese et al., including the utilization of lithium compounds, which are bodily integrated in their entirety with the Jones et al. sensing apparatus, fail to meet the requirements for the claimed invention. However, contrary to the allegations of the applicant, lithium compounds need not be utilized. For example, Friese et al. do further indicate that other materials may be utilized, such as sodium  $\beta$ -aluminum oxide (see col. 2, lines 23 – 34 & lines 50 & 51). Notwithstanding the teachings of Friese et al. regarding the use of specific materials, Friese et al. do definitely teach the concept of utilizing a protective layered system with a gas sensor, which is susceptible to contamination.

In response to applicant's argument that the teachings of Jones et al. in view of Friese et al. do not render the claimed invention obvious, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have

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suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). The Courts have held that "[a] reference is reasonably pertinent if, even though it may be in a different field of endeavor, it is one which, because of the subject matter with which it deals logically would have commended itself to an inventor's attention in considering his problem." See *In re Clay*, 23 USPQ2d 1058 (CAFC 1992); & *In re GPAC, Inc.*, 35 USPQ2d 1116 (Fed. Cir. 1995). If a reference disclosure relates to the same problem as that addressed by the claimed invention, "that fact supports use of that reference in an obviousness rejection. An inventor may well have been motivated to consider the reference when making his invention." *Id.* Furthermore, the Court has recognized that an artisan is presumed to have skill, rather than lack of skill. See *In re Sovish*, 226 USPQ 771 (Fed. Cir. 1985). Lithium is notoriously well known in the art as a catalyst poison (see MPEP § 2144.03). Hence, a person of ordinary skill in the art would accordingly have clearly recognized the desirability of avoiding the incorporation of lithium as a component in providing for the claimed invention.

As discussed in the previous final office action, mailed 1/11/2005, Jones et al. do unequivocally teach the concept of utilizing a layered configuration, which essentially acts as a protective molecular filter, in a gas sensing apparatus. Jones et al. do teach that around the pellet of their disclosed apparatus may be provided additional layers of catalytically active materials and/or an inactive non-catalytic porous material, the latter provided to act as a molecular filter

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(see col. 1, lines 45 – 51). Both of the Friese et al. and Jones et al. references pertain to gas detection devices, which utilize catalytic materials for detection, and are susceptible to similar problems, such as fouling and poisoning. For example, Jones et al. teach that their gas detection device can be susceptible to catalyst poisoning by non-volatile residues, and therefore incorporates the use of an additional porous layer, which can act as a filter to mitigate the effects of these residues on detector performance (see col. 1, lines 30 – 37). Similarly, Friese et al. teach the incorporation of a porous layer comprising gettering agents for trapping contaminant gases to mitigate the effect of contaminants on detector performance (see col. 1, lines 50 – 68). Friese et al. do indicate that the layered system concept is suitable for use with other sensor systems (see col. 2, lines 52 – 59). Both of the detection devices, as disclosed by Friese et al. and Jones et al., utilize the same catalytic material, such as platinum or palladium, for example, for detection (see Friese et al.: col. 2, lines 4 – 23 & Jones et al.: col. 1, line 54 – col. 2, line 28). The Court has held that the rationale to modify or combine the prior art does not have to be expressly stated in the prior art; the rationale may be expressly or impliedly contained in the prior art or it may be reasoned from the knowledge generally available to one of ordinary skill in the art, established scientific principles, or legal precedent established by prior case law. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) (see MPEP § 2144). As evidenced by the teachings of Jones et al. and Friese et al., a person of ordinary skill in the art would have recognized the suitability of incorporating a layered configuration for a gas sensing device utilizing a catalytic material in order to provide for better performance, such as by the protective effects afforded by the incorporation of a gettering agent into a protective porous layer for trapping contaminant gases (see MPEP § 2144.07). Furthermore, as evidenced by Friese et al., a person of ordinary

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skill in the art would accordingly have had a reasonable expectation for success of incorporating such a layered structural configuration within a sensing apparatus. The Courts have held that the prior art can be modified or combined to reject claims as *prima facie* obvious as long as there is a reasonable expectation of success. See *In re Merck & Co., Inc.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986) (see MPEP § 2143.02). Therefore, it would have been obvious to a person of ordinary skill in the art to provide a layered system as taught and suggested by Jones et al. in view of Friese et al., to provide the layered structural configuration for the sensor as claimed in order to provide for better sensor performance when the sensor is in the presence of contaminant or residue gases that can harm the sensing element. This rejection is maintained.

2. Regarding the rejection of claim 5 under 35 U.S.C. 103(a) as being unpatentable over Jones et al. and Friese et al., and further in view of Cheng et al. (U.S. Pat. No. 5,670,115), applicant's arguments, filed 3/21/2005, have been fully considered, but they are not persuasive. The applicant provided no substantial argument in rebuttal to this rejection. This rejection is maintained.

### ***Conclusion***

Claims 1 – 14 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian J. Sines, Ph.D. whose telephone number is (571) 272-1263. The examiner can normally be reached on Monday - Friday (11 AM - 8 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).